

Docket No. X-13168

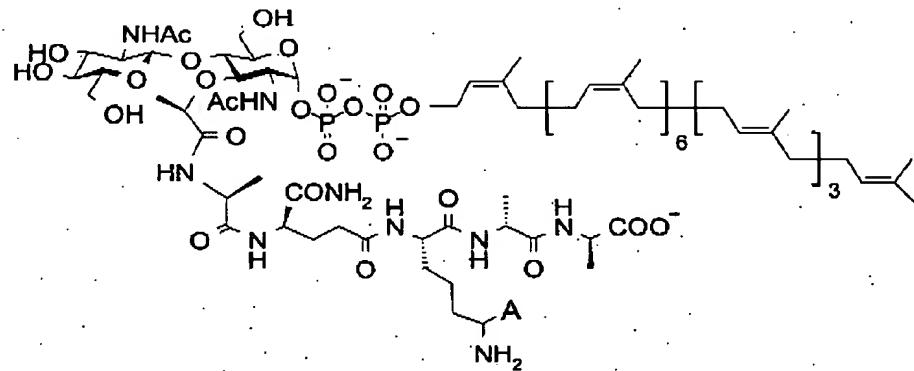
Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1: cancelled.

Claim 2 (original): An isolated Lipid II compound having a purity greater than or equal to 50% of the following formula:



3W⁺

wherein:

A is a hydrogen or a carboxyl group;

Ac is $-\text{C}(\text{O})\text{CH}_3$; and

W^+ is each independently a proton or cation selected from the group consisting of an alkali metal, alkaline earth metal, ammonium, alkyl ammonium, and dialkyl ammonium.

Claim 3 (original): The isolated Lipid II compound of Claim 2, wherein said Lipid II compound has a purity greater than or equal to 60%.

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Claim 4 (original): The isolated Lipid II compound of Claim 2, wherein said Lipid II compound has a purity greater than or equal to 70%.

Claim 5(original): The isolated Lipid II compound of Claim 2, wherein said Lipid II compound has a purity greater than or equal to 80%.

Claim 6 (original): The isolated Lipid II compound of Claim 2, wherein said Lipid II compound has a purity greater than or equal to 90%.

Claim 7 (original): The isolated Lipid II compound of Claim 2, wherein said Lipid II compound has a purity greater than or equal to 95%.

Claim 8 (original): The isolated Lipid II compound of Claim 2, wherein said Lipid II compound has a purity greater than or equal to 98%.

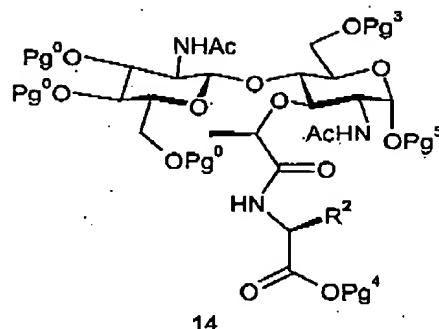
Claim 9 (original): The isolated Lipid II compound of Claim 2, wherein said Lipid II compound has a purity greater than or equal to 99%.

Claim 10 (original): The isolated Lipid II compound of Claim 2, wherein said Lipid II compound has a purity greater than or equal to 99.5%.

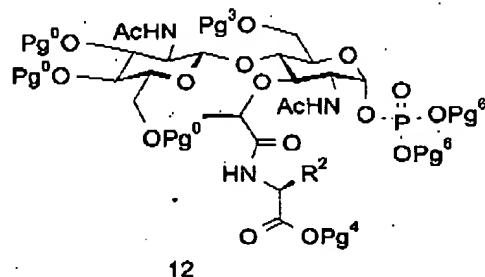
Claim 11 (original): A process for preparing a Lipid II compound, comprising:

(1) providing a protected disaccharide core of formula 14

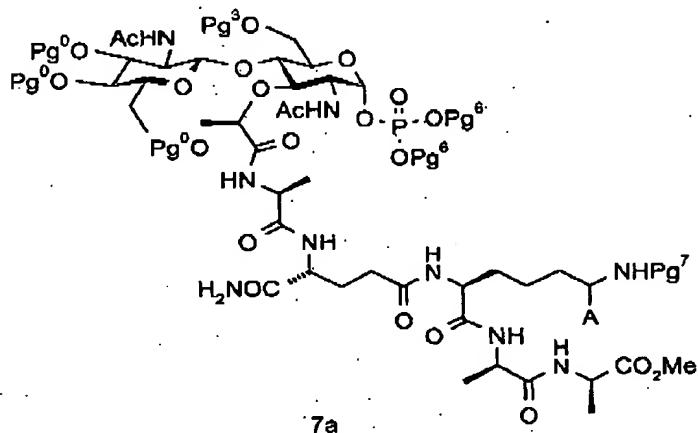
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(2) introducing an anomeric phosphate to form a compound of formula 12

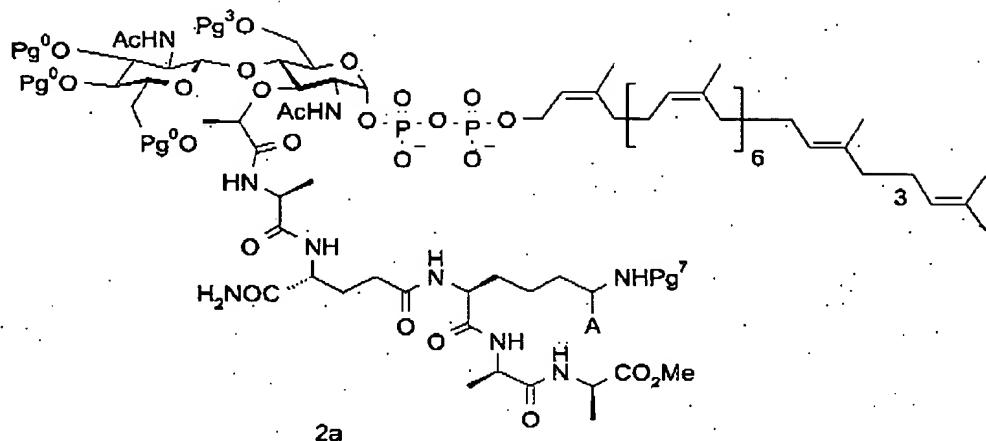


(3) introducing a polypeptide linkage to form a compound of formula 7a



(4) introducing an undecaprenyl diphosphate linkage to form a compound of formula 8a

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(5) removing Pg⁰, Pg³, Pg⁷, and Pg⁸ to form said Lipid II compound;

wherein:

A is hydrogen or a carboxyl group;

R² is methyl;

Ac is -C(O)CH₃;

Pg⁰ is an acyl hydroxy-protecting group;

Pg³ is an acyl hydroxy-protecting group;

Pg⁴ is a carboxy-protecting group;

Pg⁵ is a hydroxy-protecting group;

Pg⁶ is a phosphate protecting group;

Pg⁷ is an amine-protecting group; and

Pg⁸ is a carboxy-protecting group.

Claim 12 (cancelled)

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Claim 13 (currently amended): A process for preparing purified isolating Lipid II comprising:

chromatographically separating a Isolating said Lipid II analyte from a
sample matrix utilizing a mobile phase maintained at a pH greater than 6; and
collecting said analyte to provide said purified Lipid II.

Claim 14 (original): The process of Claim 13 wherein said pH is between 6 and 12.

Claim 15(original): The process of Claim 14 wherein said pH is between 7 and 10.

Claim 16 (original): The process of Claim 15 wherein said pH is between 7 and 9.

Claim 17 (original): The process of Claim 13, wherein said Lipid II has a purity greater than or equal to 50%.

Claim 18 (original): The process of Claim 13, wherein said Lipid II has a purity greater than or equal to 60%.

Claim 19 (original): The process of Claim 13, wherein said Lipid II has a purity greater than or equal to 70%.

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Claim 20 (original): The process of Claim 13, wherein said Lipid II has a purity greater than or equal to 80%.

Claim 21 (original): The process of Claim 13, wherein said Lipid II has a purity greater than or equal to 90%.

Claim 22 (original): The process of Claim 13, wherein said Lipid II has a purity greater than or equal to 95%.

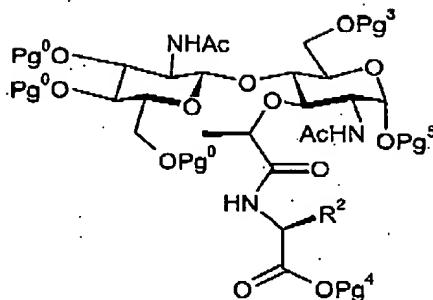
Claim 23 (original): The process of Claim 13, wherein said Lipid II has a purity greater than or equal to 98%.

Claim 24 (original): The process of Claim 13, wherein said Lipid II has a purity greater than or equal to 99%.

Claim 25 (original): A process for preparing a Lipid substrate, comprising:

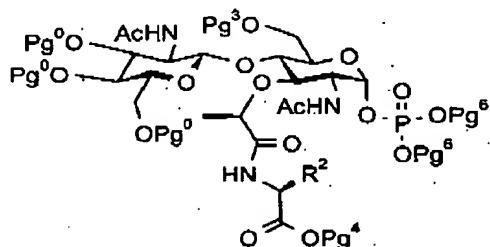
(1) providing a protected disaccharide of formula 14

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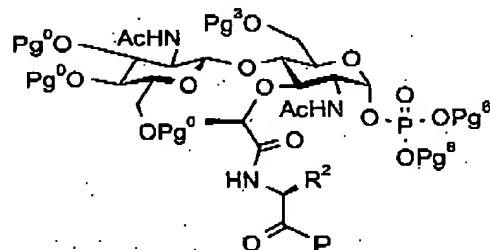
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(2) introducing an anomeric phosphate to form a compound of formula 12



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(3) introducing a peptide linkage to form a compound of formula 7

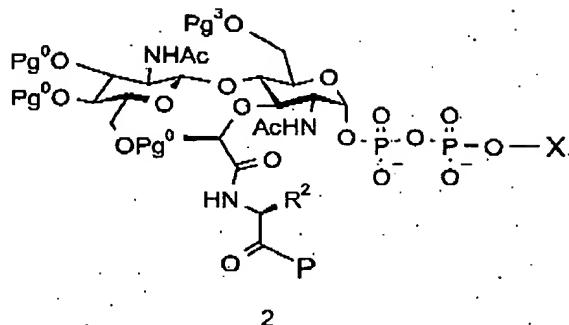


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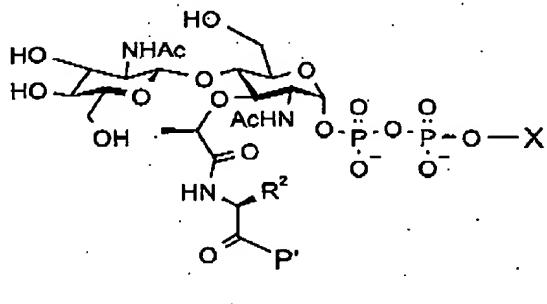
(4) introducing a lipid-carrier diphosphate linkage to form a compound of formula 2

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(5) removing the Pg⁰ and Pg³ groups and deprotecting the P group to produce a lipid substrate of formula 1



wherein:

Ac is -C(O)CH₃;

Pg⁰ is an acyl hydroxy-protecting group;

Pg³ is an acyl hydroxy-protecting group;

Pg⁴ is a carboxy-protecting group;

Pg⁵ is a hydroxy-protecting group;

Pg⁶ is a phosphate-protecting group;

R² is hydrogen, (C₁-C₅) alkyl or (C₁-C₃) alkylphenyl;

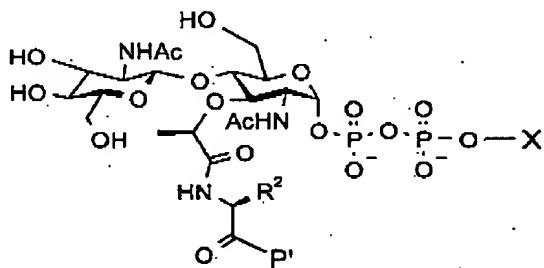
X is a lipid carrier;

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P attached to the carbonyl is a residue of an amino acid or peptide,
 wherein P comprises a protected terminal carboxy group; and
 P' is a residue of an amino acid or peptide.

Claim 26 (cancelled)

Claim 27 (original): A lipid II analog of formula 1



wherein:

Ac is $-\text{C}(\text{O})\text{CH}_3$; Pg^0 is an acyl hydroxy-protecting group; Pg^3 is an acyl hydroxy-protecting group; Pg^4 is a carboxy-protecting group; Pg^5 is a hydroxy-protecting group; Pg^6 is a phosphate-protecting group; R^2 is hydrogen, $(\text{C}_1\text{-C}_5)$ alkyl or $(\text{C}_1\text{-C}_3)$ alkylphenyl;

X is a lipid carrier;

P attached to the carbonyl is a residue of an amino acid or peptide,
 wherein P comprises a protected terminal carboxy group; and
 P' is a residue of an amino acid or peptide.